ENGINEERING EXHIBIT EE-3

POSITIVE ALTERNATIVE RADIO, INC. ASHEBORO, NORTH CAROLINA

;

FEBRUARY, 1993

ENGINEERING AMENDMENT IN SUPPORT OF AN APPLICATION FOR A NON-COMMERCIAL FM BROADCAST STATION

POSITIVE ALTERNATIVE RADIO, INC. ASHEBORO, NORTH CAROLINA

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I, PETER V. GURECKIS, certify that I am a Consulting Radio Engineer,

that my qualifications are known to the Federal Communications Commission and

that my firm has been retained by POSITIVE ALTERNATIVE RADIO, INC.,

Asheboro, North Carolina, to prepare this statement.

I further state that the calculations and exhibits contained herein were

prepared by me personally or under my direction and that all facts contained

therein are true of my knowledge except where stated to be on information or

belief, and as to those facts, I believe them to be true.

PETER V. GURECKIS

PETER V. GURECKIS & ASSOCIATES

DATE: FEBRUARY 1, 1993

ENGINEERING STATEMENT

POSITIVE ALTERNATIVE RADIO, INC. ASHEBORO, NORTH CAROLINA

This Engineering Amendment has been prepared on behalf of POSITIVE ALTERNATIVE RADIO, INC., who now has on file an application requesting a non-commercial FM broadcast station to operate on Channel 207A with an effective radiated power of 2.5 KW at Asheboro, North Carolina (File No. BPED-911119MC).

The purpose of this amendment is to specify a new antenna location. The new antenna is located at the antenna site of Station WZOO, licensed to Asheboro, North Carolina. Station WZOO operates on 710 KHz with a power of 1000 watts daytime only using a three tower directional antenna system.

The applicant proposes to mount its four (4) Bay FM antenna on the center tower of Station WZOO. A iscoupler will be used to prevent any interaction between the AM and proposed FM operation. Further, the applicant will accept a condition to its construction permit that before and after measurements will be filed with the F.C.C. prior to the applicant submitting its 302 application for program test authority.

It was noted in the WZOO application that the ground elevation above mean sea level is shown as 700 feet whereas based upon the licensed coordinates, the ground elevation above mean sea level is 638 feet. Thus, the 638 feet or 195 meters value was used for this proposal. The F.A.A. is being notified of this change in ground elevation.

ENGINEERING STATEMENT POSITIVE ALTERNATIVE RADIO, INC. - ASHEBORO, NORTH CAROLINA CONTINUED - PAGE 2

Complete protection is provided to all stations as shown on Figures 5 and 6 in this amendment. Also, the proposed 67.4 dbu contour is well outside of TV station WVVA's 47 dbu contour.

Attached are Figures 1 through 8 and Section V-B of Form 340.

Section	Section V-B - FM BROADCAST ENGINEERING DATA				FOR COMMISS File No. ASB Referral f Referred by		Y	
Name of Applic	cant							
	POSITI	VE ALTERN	ATIVE RADIO	O, INC.				
Call letters (if	issued).		is this applic	ation being	filed in response	3 to a window	r?	Yes No
			If Yes, speci	ify closing	date:			
Purpose of Ap	plication: I che	sk appropriate bo	x(es))					
X Constr	uct a new (maii	n) facility		Co	nstruct a new au	xiliary facility		
Modify	existing const	ruction permit fo	r main facility	Мо	dify existing con	struction perm	nit for auxi	iliary facility
Modify	licensed main	facility		Мо	dify licensed aux	iliary facility		
If purpose is to	o modify, indica	te below the nat	ure of change(s)	and specify	the file number(s) of the author	orizations a	affected.
Antenn	a supporting-st	ructure height		Eff	ective radiated po	ower		
Antenna height above average terrain				Fre	quency			
Antenn	a location			Cla	ss			
Main Studio location				O1h	er (Summerize br	ieflyl		
	(s) AMENDA	MENT TO AF	PPLICATION					
1. Allocation:						Class (chec	k anlu ana	hor halani
Channel No.	City	Principal co	County	erved:	State		В1 Г	Пв
207	ASHEBOR	80	RANDOLPI	Η	NC			
2.1 MI STATI (b) Geographic Otherwise	ddress, city, cou LES N.W. ON WZOO cal coordinates	OF BALFOU (AM). (to nearest seco location. Specif	no address, spec R, NORTH C nd). If mounted or y South Latitude o	AROLIN	A - SAMES	ITE AS F	OR nates of ce	enter of array.
Latitude	35	45	50	Longitude	79	50)	04
3. Is the suppor application(s)?		he same as that	of another station((s) or prop	osed in another p	ending	X	Yes No
If Yes, give	call letter(s) or	file number(s) or	r both.		WZOC	O (AM)		· ·
	nvolves a chang urtenances, and		n existing structure	e, specify (existing height above ${\sf N}$ /		vet includin	g antenna,

Latitude	0	•	•	Longitude		o 	•	
If Yes, give of determination,	been notified of the date and office who if available.	ISTING TO	filed and attac WER OF S		ZOO (AN		Exhi	Yes X N bit No. /A
5. List all landing runway.	g areas within 8 km	of antenna site	. Specify dist	ance and bearin	g from stru	acture to nea	rest point of	the nearest
ronway,	Landing Area		Dis	tance (km)		Bear	ing (degrees	True)
(a)	N/A						·	<u> </u>
(b)		`		·				
7. (a) Elevation:	Ito the neerest met	•rl						
(1) of site	e above mean sea l	evel;				-	195	meters
	top of supporting enances, and lighting		ground (includ	ding antenna, all	other	-	106	meters
(3) of the	top of supporting	structure above	mean sea leve	el [(a)(1) + (a	(X2)]	-	301	_ meters
(b) Height of	radiation center: /	to the nearest me	eter) H = Ho	orizontal; V = \	Vertical			
(1) above	ground					-	99	_ meters (f
						_	99	meters (
(2) above	mean sea level	[(aX1) + (bX1)]			-	294	meters (
						_	294	_ meters (
(3) above	average terrain					_	91	meters (i
						_	91	_ meters (
in Question 7	Exhibit sketch(es) of above, except items and orientations of	n 7(bX3). If mou	nted on an Al	M directional—ar	ray element			oit No. -3
Effective Radia					2 5	bur Alam	2.5	kw (V¥)
(b) Is beam til	horizontal plane			 .		_ ~~ \□~) _		_ KW (V*) /es X No
	•	to the state of			Filebra			.
	acify maximum ERP plot of radiated fie		tne filted bea	m, and attach a			N/	it No.
*Polarizatio	n	-						

10.	Is a directional antenna proposed?	X Yes No
	If Yes, attach as an Exhibit a statement with all data specified in 47 C.F.R. Section 73.316, including plot(s) and tabulations of horizontally and vertically polarized radiated components in terms of relative field.	Exhibit No. EE
11.	Will the main studio be located within the 70 dBu or 3.16 mV/m contour?	X Yes No
	If No, attach as an Exhibit justification pursuant to 47 CF.R. Section 73.1125.	Exhibit No. N/A
12.	Are there: (a) within 60 meters of the proposed antenna, any proposed or authorized FM or TV transmitters, or any nonbroadcast (except citizens bend er eneteur) radio stations; or (b) within the blanketing contour, any established commercial or government receiving stations, cable head-end facilities, or populated areas; or (c) within ten (10) kilometers of the proposed antenna, any proposed or authorized FM or TV transmitters which may produce receiver-induced intermodulation interference?	Yes X No
	If Yes, attach as an Exhibit a description of any expected, undesired effects of operations and remedial steps to be pursued if necessary, and a statement accepting full responsibility for the elimination of any objectionable interference (including that caused by receiver-induced or other types of modulation) to facilities in existence or authorized or to radio receivers in use prior to grant of this application. (See 47 C.F.R. Sections 73.375(b), 73.376(d) and 73.378.)	Exhibit No. N/A
	Attach as an Exhibit a 7.5 minute series U.S. Geological Survey topographic quadrangle map that shows clearly, legibly, and accurately, the location of the proposed transmitting antenna. This map must comply with the requirements set forth in Instruction D for Section V. Further, the map must clearly and legibly display the original printed contour lines and data as well as latitude and longitude markings, and must bear a scale of distance in kilometers.	Exhibit No. EE-3
	Attach as an Exhibit (neme the seurce) a map which shows clearly, legibly, and accurately, and with the original printed latitude and longitude markings and a scale of distance in kilometers:	Exhibit No.
	(a) the proposed transmitter location, and the radials along with profile graphs have been prepared;	
	(b) the 1 mV/m predicted contour and, for noncommercial educational applicants applying on a commercial channel, the 3.16 mV/m contour; and	
+	(c) the legal boundaries of the principal community to be served.	
	Specify area in square kilometers (1 sq. mi, = 2.59 sq. km.) and population (latest census) within the predicted 1 mV/m contour. PRESENT 1208 KM OR 466 SQ. MILES.	
	Area 931 sq. km. Population 62,366 (1990 Census)	
16.	Attach as an Exhibit a map (Sectional Aeronautical charts where obtainable) showing the present and proposed 1 mV/m (60 dbu) contours.	Exhibit No.
	Enter the following from Exhibit above: Gain Area Loss Area 14 sq. mi.	
	Percent change (gain area plus loss area as percentage of present area) <u>26.4</u> %. If 50% or more this constitutes a major change, Indicate in question 2(c), Section I, accordingly.	•

a) the proposed	auxiliary 1 mV/m contour; and		
Also specify to	the file number of the license. S	hich the applied-for facility will be auxiliary. ee 47 C.F.R. Section 73.1675. (File	
	n data: Icheck only one box below?	3,3,3,3	
X Linearly inte	rpolated 30-second database	7.5 minute topographic map	
(Source:	NGDC NGDC		
Other (brie	ofly summarized		
	Height of radiation center above	Predicted Distances	
Radial bearing	average elevation of radial from 3 to 16 km	to the 1 mV/m contour	
(degrees True)	(meters)	(kilometers)	
0	80	10.13	
45	75	10.00	
90	106	12.05	
135	86	17.03	
180	52	16.64	
225	138	26.60	
270	104	22.94	•
315	89	16.12	

If Yes, attach as an Exhibit a showing of compliance with all provisions of the Agreement between the

United States of America and the United Mexican States concerning Frequency Modulation Broadcasting

Exhibit No.

in the 88 to 108 MHz band.

SECTION V-B - FM BROADCAST ENGINEERING DATA (Page 5)

20. Is the proposed antenna location within 320 kilometers of the common border between the United States and Canada?	Yes X No
If Yes, attach as an Exhibit a showing of compliance with all provisions of the Working Agreement for Allocation of FM Broadcasting Stations on Channels 201-300 under The Canada-United States FM Agreement of 1947.	Exhibit No. N/A
21. If the proposed operation is for a channel in the range from channel 201 through 220 (88.1 through 91.9 MHz), or if this proposed operation is for a class D station in the range from Channel 221 through 300 (92.1 through 107.9 MHz), attach as an Exhibit a complete allocation study to establish the lack of prohibited overlap of contours with other U.S. stations. The allocation study should include the following:	Exhibit No. EE-3
 (a) The normally protected interference-free and the interfering contours for the proposed operation along all azimuths. (b) Complete normally protected interference-free contours of all other proposals and existing stations to which objectionable interference would be caused. (c) Interfering contours over pertinent arcs of all other proposals and existing stations from which objectionable interference would be received. (d) Normally protected and interfering contours over pertinent arcs, of all other proposals and existing stations, which require study to show the absence of objectionable interference. (e) Plot of the transmitter location of each station or proposal requiring investigation, with identifying call letters, file numbers and operating or proposed facilities. (f) When necessary to show more detail, an additional allocation study will be attached utilizing a map with a larger scale to clearly show interference or absence thereof. (g) A scale of kilometers and properly labeled longitude and latitude lines, shown across the entire Exhibit(s). Sufficient lines should be shown so that the location of the sites may be verified. (h) The name of the map(s) used in the Exhibit(s). 	
22. With regard to any stations separated by 53 or 54 channels (10.6 or 10.8 MHz) attach as an Exhibit information required in 1/ (separation requirements involving intersediate frequency (i.f.) interference).	Exhibit No. EE-3
23.(a) is the proposed operation on Channel 218, 219, or 220?	Yes X No
(b) If the answer to (a) is yes, does the proposed operation satisfy the requirements of 47 C.F.R. Section 73.207?	Yes Nc
(c) If the answer to (b) is yes, attach as an Exhibit information required in 1/ regarding separation requirements with respect to stations on Channels 221, 222 and 223.	Exhibit No.
(d) If the answer to (b) is no, attach as an Exhibit a statement describing the short spacing(s) and how it or they arose.	Exhibit No.

1/ A showing that the proposed operation meets the minimum distance separation requirements, include existing stations, proposed stations, and cities which appear in the Table of Allotments; the location and geographic coordinates of each antenna, proposed antenna or reference point, as appropriate; and distance to each from proposed antenna location.

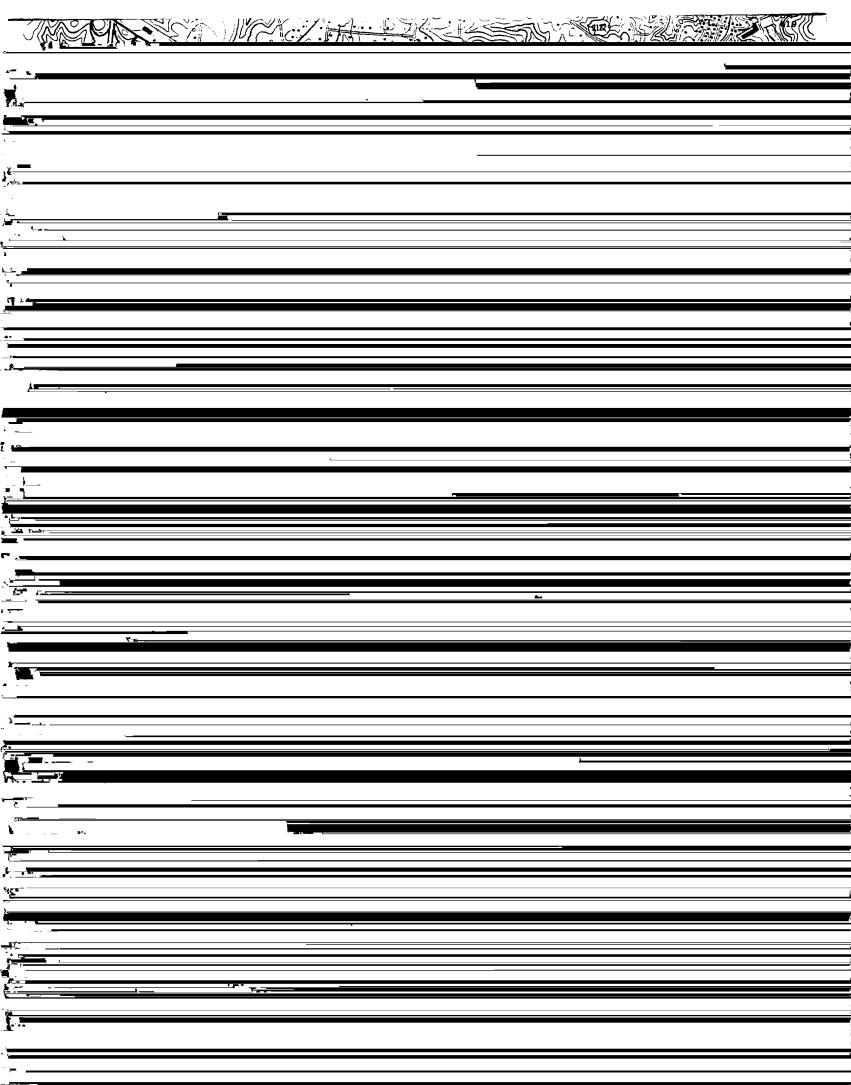
SECTION V-B - FM BROADCAST ENGINEERING DATA (Page 6)

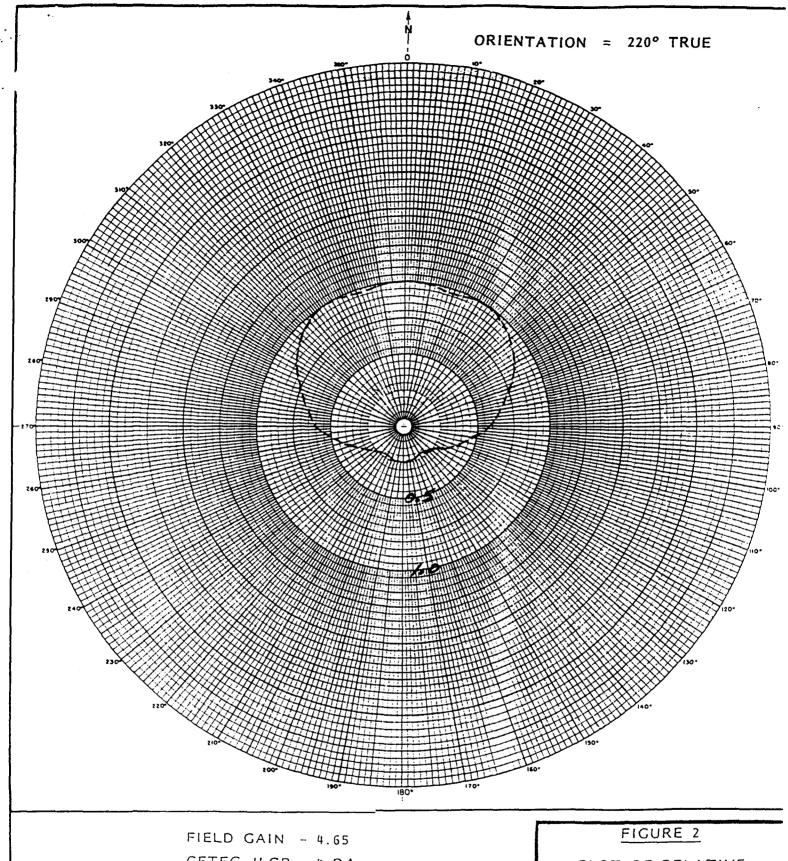
(e) If authorization pursuant to 47 C.F.R. Section 73.215 is requested, attach as an Exhibit a complete engineering study to establish the lack of prohibited overlap of contours involving affected stations. The engineering study must include the following:	Exhibit No. N/A
 Protected and interfering contours, in all directions (360), for the proposed operation. Protected and interfering contours, over pertinent arcs, of all short-spaced assignments, applications and allotments, including a plot showing each transmitter location, with identifying call letters or file numbers, and indication of whether facility is operating or proposed. For vacant allotments, use the reference coordinates as transmitter location. When necessary to show more detail, an additional allocation study utilizing a map with a larger scale to clearly show prohibited overlap will not occur. A scale of kilometers and properly labeled longitude and latitude lines, shown across the entire exhibit(s). Sufficient lines should be shown so that the location of the sites may be verified. The official title(s) of the map(s) used in the exhibit(s). 	
· · · · · · · · · · · · · · · · · · ·	
24. Is the proposed station for a channel in the range from Channel 201 to 220 (88.1 through 91.9 MHz) and the proposed antenna location within the distance to an affected TV Channel 6 station(s) as defined in 47 C.F.R. Section 73.525?	Yes X N
If Yes, attach as an Exhibit either a TV Channel 6 agreement letter dated and signed by both parties or a map and an engineering statement with calculations demonstrating compliance with 47 C.F.R. Section 73.525 for each affected TV Channel 6 station.	Exhibit No.
25. Is the proposed station for a channel in the range from Channel 221 to 300 (92.1-107.9 MHz)?	Yes X N
If Yes, attach as an Exhibit information required in 1/. If xcept for Class D (secondary) proposals.)	Exhibit No.
26. Environmental Statement ISee 47 C.F.R. Section 1.1301 et seq.1	
Would a Commission grant of this application come within Section 1.1307 of the FCC Rules, such that it may have a significant environmental impact? EXISTING TOWER	Yes X N
If you answer Yes, submit as an Exhibit an Environmental Assessment required by Section 1.1311.	Exhibit No.
If No, explain briefly why not. SEE FIGURE 8 FOR RF STATEMENT.	N/A
CERTFICATION	••

I certify that I have prepared this Section of this application on behalf of the applicant, and that after such preparation, I have examined the foregoing and found it to be accurate and true to the best of my knowledge and belief.

Name (Typed or Printed)	Relationship to Applicant le.g., Lensulting Engineer)
PETER V. GURECKIS	CONSULTING ENGINEER
Signature Manuelus	Address (Include 219 Code) 10410 WINDSOR VIEW DRIVE POTOMAC, MARYLAND. 20854-4024
Date	Telephone No. I Include Area Codel
FEBRUARY 1, 1993	(301) 299-5383







FIELD GAIN - 4.65 CETEC JLCP - 4 DA STOCK PATTERN C ----- HORIZONTAL ----- VERTICAL

PLOT OF RELATIVE FIELD PATTERN

P.A.R., INC. ASHEBORO, N. C.

Peter V. Gureckis & Assoc. Consulting Radio Engineers Potomac, MD

FIGURE 3

POSITIVE ALTERNATIVE RADIO, INC. ASHEBORO, NORTH CAROLINA

Bearing	Field
0	1.00
10 - 350	.988
20 - 340	.966
30 - 330	1.00
40 - 320	.988
50 - 310	.933
60 - 300	.861
70 - 290	.759
80 - 280	.653
90 - 270	.603
100 - 260	.468
110 - 250	.389
120 - 240	.309
130 - 230	.260
140 - 220	.240
150 - 210	.234
160 - 200	.240
170 - 190	.248
180	.254

Pattern Maxima	Pattern Minima
0 0	150°
30°	210°
330°	

FIGURE 4

POSITIVE ALTERNATIVE RADIO, INC. ASHEBORO, NORTH CAROLINA

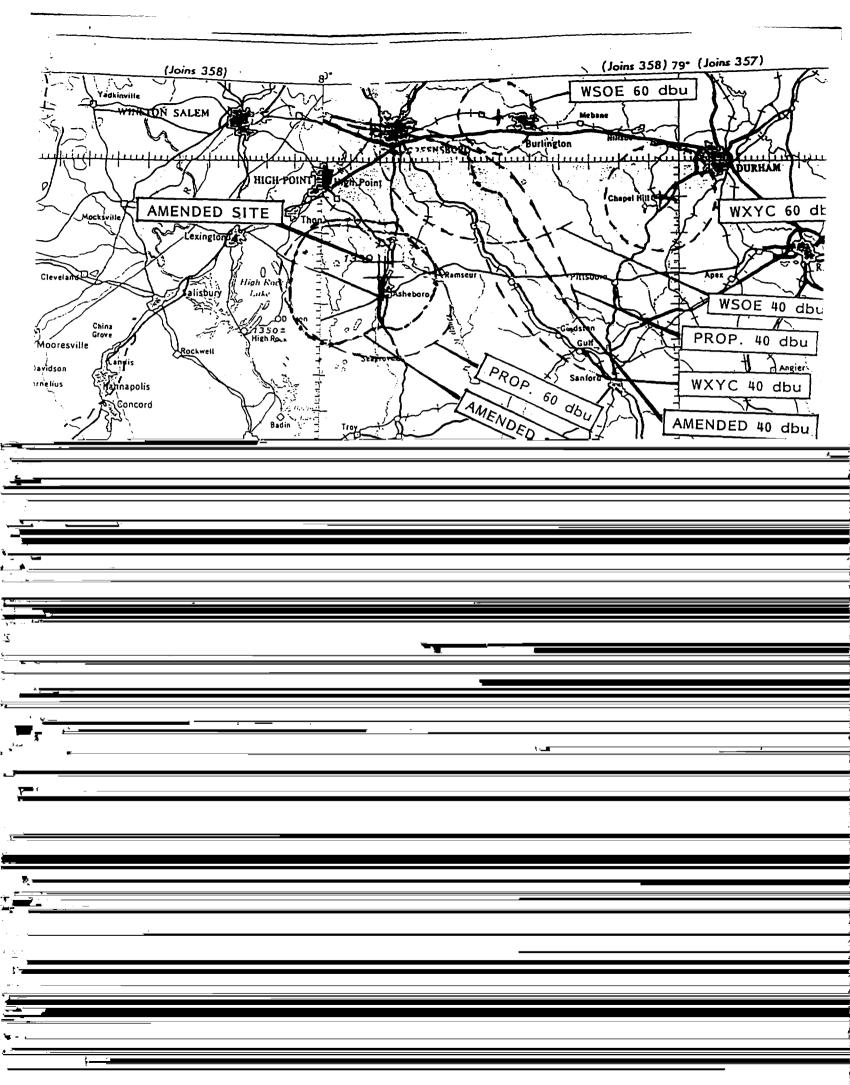
TABULATION OF DISTANCE TO AMENDED CONTOURS

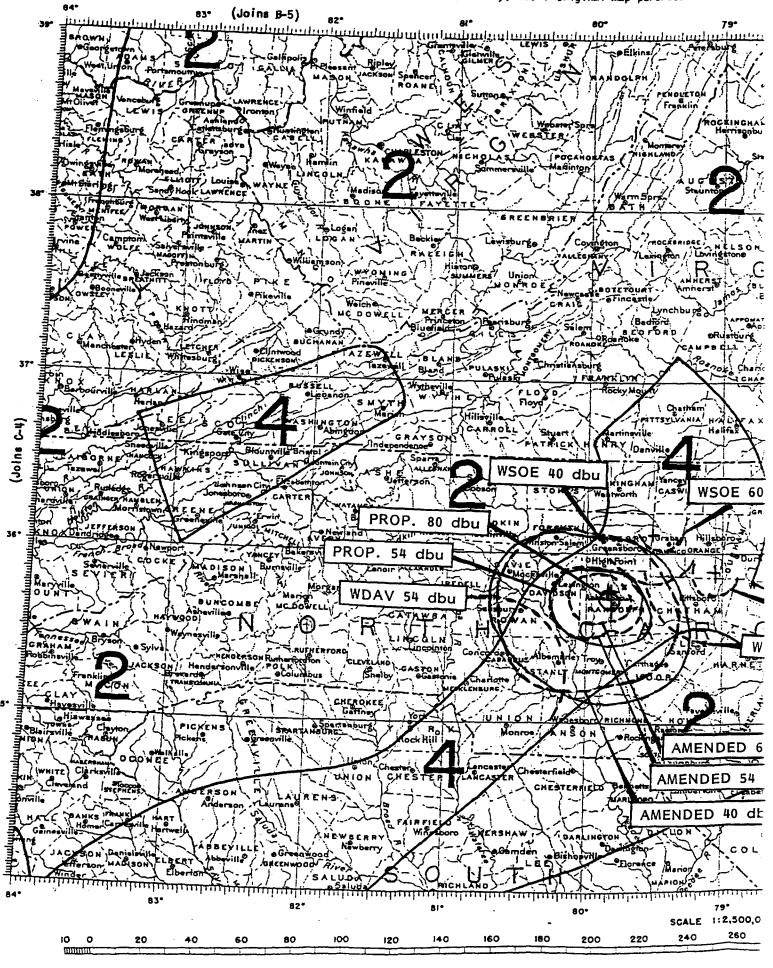
True			DIST 50/50	TANCE IN 50/	KM 10
Bearing (Deg.)	HAAT	ERP (KW)	60 dbu	40 dbu	54 dbu
0	80	.144	10.13	34.04	14.12
10	76	.14	9.82	32.78	13.67
20	83	. 144	10.31	34.76	14.38
30	84	.15	10.47	35.40	14.62
40	82	.16	10.52	35.56	14.68
50	69	.15	9.54	31.65	13.30
60	85	. 144	10.43	35.23	14.56
70	88	.14	10.53	35.65	14.72
80	90	.144	10.72	36.37	15.02
90	106	.17	12.05	41.29	17.79
100	120	.24	13.93	47.24	21.00
110	108	.38	14.88	50.47	22.41
120	98	.55	15.58	52.82	23.35
130	90	.91	17.08	57.13	25.28
140	82	1.07	16.93	57.43	25.05
150	78	1.44	17.85	60.38	26.27
160	74	1.85	18.54	62.98	27.21
170	55	2.18	16.66	60.30	24.62
180	52	2.44	16.64	61.03	24.61
190	61	2.5	18.24	64.29	26.74
200	88	2.33	21.45	69.70	31.76
210	108	2.44	23.96	74.24	36.11
220	132	2.5	26.23	78.59	39.77
230	135	2.44	26.33	78.71	39.91

FIGURE 4

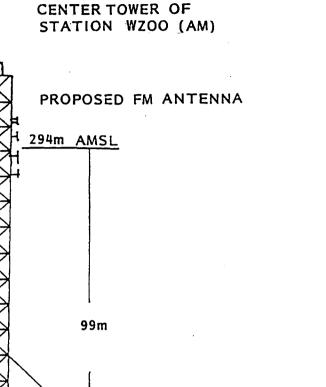
POSITIVE ALTERNATIVE RADIO, INC. ASHEBORO, NORTH CAROLINA

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Land Control of the C	
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STUDIO PRINTING, INC. 2387 Lewis Avenue Rockville, Maryland 20851 (301) 770-0440 und conductivity map, Figure M 3, adopted Government Printing Office in April, 1960 (Joins B-6) 78* رخی Cape Mey Cape Henlopen



195m AMSL

NOT TO SCALE

301m AMSL

106m

FIGURE 7

ISOCOUPLER

TOWER SKETCH

P.A.R., INC. ASHEBORO, N.C.

Peter V. Gureckis & Assoc. Consulting Radio Engineers Potomac, MD

FIGURE 8

POSITIVE ALTERNATIVE RADIO, INC. ASHEBORO, NORTH CAROLINA

RF STATEMENT

The proposed FM operation will comply with the safety requirements of OSHA in that the power density at the base of the tower will be below the maximum permissible exposure level for humans of 100 milliwatts per centimeter squared. The RF radiation value at 2 meters above the base of the tower is 0.1243 percent of the maximum of 1000 um/c² based upon the following calculations:

```
Horizontal Power = 2.5
Vertical Power = 2.5
Number of Bays = 4
```

Pick from the following antenna types:

```
Dipole (Phelps Dodge) = 1
Jampro (Double V) = 2
ERI (Roto Tiller) = 3
RCA/Dielectric (BFC) = 4
RCA (BFG) = 5
```

Separation between bay elements in wavelengths = 1 Distance from person's head (2 M AG) to Antenna C.O.R. in meters/F = 97 Distance from tower base in meters = 0 Vertical Angle (0 to -90 degrees) = -90 Power Density H = .266 . Power Density V = .977

R.F. radiation level = 1.243 microwatt/sq. centimeter
That is 0.1243 percent of maximum of 1000 microwatts/sq. cm

Thus, no hazard of radiation exist at ground level for the proposed FM

FIGURE 8 - CONTINUED - PAGE 2
POSITIVE ALTERNATIVE RADIO, INC. - ASHEBORO, NORTH CAROLINA
RF STATEMENT

, · . · .

applicant will install a fence at 3 meters from the base of the AM-FM tower because of WZOO's AM 1 KW operation.

The applicant and the licensee of Station WZOO will have an agreement in effect that will require both stations to reduce power or cease operation when construction or maintenance is performed within 3 meters of the tower or on the tower so that workers are not subject to radio frequency radiation that exceeds the ANSI limit of 1000 microwatts per square centimeter.

ANTI-DRUG ABUSE ACT CERTIFICATION

The applicant certifies that, in the case of an individual applicant, he or she is not subject to a denial of federal benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. § 853a, or, in the case of a non-individual applicant (e.g. corporation, partnership or other unincorporated association), no party to the application is subject to a denial of federal benefits pursuant to that section. For the definition of a "party" for these purposes, see 47 C.F.R. § 1.2002(b).

[X] Yes	No
	Vernon ABater
Name of Applicant POSITIVE ALITERNATIVE RADIO,	Signature
*Date	Title
March 11, 1993	Director

CERTIFICATE OF SERVICE

I, Margaret A. Ford, Office Manager of the law firm of Booth, Freret & Imlay, do hereby certify that copies of the foregoing PETITION FOR LEAVE TO AMEND were mailed this 17th day of March, 1993, to the offices of the following:

*Administrative Law Judge Joseph P. Gonzalez Federal Communications Commission 2000 L Street, N. W., Room 221 Washington, D. C. 20554

*Norman Goldstein, Esquire
Hearing Branch, Enforcement Division
Mass Media Bureau
Federal Communications Commission
2025 M Street, N. W., Room 7212
Washington, D. C. 20554

Chief, Data Management Staff Audio Services Division Mass Media Bureau Federal Communications Commission 1919 M Street, N. W., Room 350 Washington, D. C. 20554

B. Jay Baraff, Esquire
Baraff, Koerner, Olender
& Hochberg, P.C.
5335 Wisconsin Avenue, N. W.
Suite 300
Washington, D. C. 20015-2003

Margaret A. Ford

* Via Hand Delivery